

sPHENIX

Quality Assurance

Director's Cost and Schedule Review
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Outline: Quality Assurance

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Introduction

- The sPHENIX Project will be conducted in accordance with the BNL Quality Assurance (QA) Program that applies to all work conducted at BNL.
- This program describes how various BNL management system processes and functions provide a sound approach that conforms to the basic requirements defined in DOE Order 414.1D, Quality Assurance.
- A preliminary QA Plan has been developed to integrate the program requirements that apply to all sPHENIX work.

DOE QA Order Requirements

The QA Plan meets the criteria of DOE Order 414.1D:

- Management:
 - Program
 - Personnel training and qualification
 - Quality improvement
 - Documents and records
- Performance:
 - Work processes
 - Design
 - Procurement
 - Inspection and acceptance testing
- Assessment:
 - Management assessment
 - Independent assessment

QA Plan: Purpose and Scope

Purpose:

- Establish the QA requirements and describe how the requirements will be met, using a graded approach.
- Meet the ten QA criteria of DOE Order 414.1D, Quality Assurance.
- Unify QA activities which are spread across multiple laboratories and universities.

Scope:

- Provide requirements applicable to all project participants, encompassing all activities including but not limited to design, fabrication, testing, integration and installation at BNL.

QA Plan: Approach

- The sPHENIX Project uses the BNL SBMS Quality Management System (QMS) that conforms to the requirements in DOE Order 414.1D.
- Existing PHENIX and Collider-Accelerator Department procedures will be used, as appropriate and necessary, to supplement the QMS.
- Additional QA procedures will be developed, as necessary, for a particular component or system.
- Collaborating institutions' specific QA procedures will be implemented for their particular scope of work and must comply with the requirements defined in the QA Plan.
- Periodic assessments will be conducted to ensure QA compliance.

QA Plan: Responsibility for Managing

- The sPHENIX Project Coordinator (PC) manages the project and is responsible for achieving performance goals.
- The sPHENIX L2 Managers are responsible for implementing the QA Plan within their subsystem.
- The sPHENIX QA Coordinator is responsible for ensuring that a quality system is established, implemented, and maintained in accordance with requirements, and for providing oversight and support to the project participants to ensure a consistent quality program.

QA Plan: Implementation

Effective implementation of the QA Plan will enable the project to:

- Design in quality and reliability.
- Promote early detection of problems to minimize failure costs and impact on schedule.
- Develop appropriate documentation to support upgrade and operational requirements.
- Define the general requirements for design and readiness reviews for all aspects of the project.
- Assure that personnel are trained before performing critical activities, especially those that have environmental, safety, health and quality consequences.